

WHAT IS CLAIMED IS:

1. An imaging apparatus comprising:

an imaging apparatus housing, said imaging apparatus housing comprising at least one first reference surface and at least one second reference surface;

5 wherein, said at least one first reference surface is coplanar with said at least one second reference surface;

wherein, said at least one first reference surface is discontinuous with said at least one second reference surface;

10 at least one lens assembly in contact with both said at least one first and at least one second reference surfaces.

2. The imaging apparatus of claim 1 and further comprising:

a photosensor assembly;

5 wherein, said housing further includes at least one photosensor assembly reference surface; and

wherein, at least a portion of said photosensor assembly is in contact with said at least one photosensor assembly reference surface.

3. The imaging apparatus of claim 1 and further comprising:

5 a recess formed between said at least one first reference surface and said at least one second reference surface.

4. The imaging apparatus of claim 1 wherein:

said lens assembly has a generally cylindrical outer profile; and

5 said generally cylindrical outer profile is in contact with both said at least one first and at least one second reference surfaces.

5. The imaging apparatus of claim 1 wherein:  
said imaging apparatus housing further comprises at  
least one third reference surface and at least one fourth  
reference surface;

5 wherein, said at least one third reference surface  
is coplanar with said at least one fourth reference  
surface;

wherein, said at least one third reference surface  
is discontinuous with said at least one fourth reference  
10 surface;

said at least one lens assembly is in contact with  
both said at least one third and said at least one fourth  
reference surfaces.

6. The imaging apparatus of claim 5 and further  
comprising:

a recess formed between said at least one third  
reference surface and said at least one fourth reference  
5 surface.

7. The imaging apparatus of claim 5 wherein said  
at least one first reference surface is not coplanar with  
said at least one third reference surface.

8. The imaging apparatus of claim 5 wherein said  
at least one first reference surface and said at least  
one third reference surface together form a v-shaped  
configuration.

9. The imaging apparatus of claim 1 wherein:  
said at least one first reference surface and said  
at least one second reference surface are integrally  
formed in a wall member;

5 said wall member includes a mounting mechanism  
integrally formed therein; and

wherein said mounting mechanism is adapted to mount a light source.

10. A method of assembling an imaging apparatus, said method comprising:

providing an imaging apparatus housing comprising at least one first reference surface and at least one second reference surface;

providing at least one lens;

wherein, said at least one first reference surface is coplanar with said at least one second reference surface;

wherein, said at least one first reference surface is discontinuous with said at least one second reference surface; and

using said at least one first reference surface and said at least one second reference surface to align said lens with said imaging apparatus housing.

11. The method of claim 10 and further comprising: providing said lens housed within a lens assembly;

and

wherein said using said at least one first reference surface and said at least one second reference surface to align said lens comprises contacting said lens assembly with said at least one first reference surface and said at least one second reference surface.

12. The method of claim 11 and further comprising:

adjusting the focus of said at least one lens assembly by sliding said lens assembly along said at least one first reference surface and said at least one second reference surface.

13. The method of claim 10 and further comprising: providing at least one photosensor assembly;

providing said housing with at least one photosensor assembly reference surface; and

5 aligning said at least one photosensor assembly with said housing by contacting at least a portion of said photosensor assembly with said photosensor assembly reference surface.

14. The method of claim 10 further comprising:  
providing a recess formed between said at least one first reference surface and said at least one second reference surface.

15. The method of claim 11 wherein:  
said lens assembly has a generally cylindrical outer profile; and

5 said contacting said lens assembly with said at least one first reference surface and said at least one second reference surface comprises contacting said generally cylindrical outer profile with said at least one first reference surface and at least one second reference surface.

16. The method of claim 10 and further comprising:  
providing said imaging apparatus housing with at least one third reference surface and at least one fourth reference surface;

5 wherein, said at least one third reference surface is coplanar with said at least one fourth reference surface;

10 wherein, said at least one third reference surface is discontinuous with said at least one fourth reference surface; and

using said at least one third reference surface and said at least one fourth reference surface to align said lens with said imaging apparatus housing.

17. The method of claim 16 and further comprising:

providing a recess between said at least one third reference surface and said at least one fourth reference surface.

18. The method of claim 16 wherein said at least one first reference surface is not coplanar with said at least one third reference surface.

19. The method of claim 16 wherein said at least one first reference surface and said at least one third reference surface together form a v-shaped configuration.

20. An imaging apparatus, said imaging apparatus comprising:

a member;

5 at least one first reference surface formed in said member;

at least one second reference surface formed in said member;

10 at least one mounting mechanism formed in said member, wherein said at least one mounting mechanism is adapted to mount at least one light source;

at least one photosensor package;

at least one optical component;

15 wherein said at least one photosensor package is in contact with said at least one first reference surface and said at least one optical component is in contact with said at least one second reference surface; and

wherein said first reference surface, said second reference surface and said mounting mechanism are all integrally formed in said member.

21. An imaging system comprising:

an imaging system housing, said imaging system housing including at least one reference surface associated therewith;

5           at least one lens assembly in contact with said at  
least one reference surface;

          at least one member in contact with said lens  
assembly;

10           at least one connector attaching said at least one  
member to said imaging system housing;

          wherein, said imaging system includes at least a  
first operating condition and a second operating  
condition;

          wherein, in said first operating condition:

- 15           -       said at least one lens assembly is translatable  
              with respect to said housing; and
- said at least one connector is applying a first  
              level of force to said at least one member;

          wherein, in said second operating condition:

- 20           -       said at least one connector is applying a  
              second level of force to said at least one  
              member, wherein said second level of force is  
              higher than said first level of force;
- 25           -       said at least one member is plastically  
              deformed relative to said first operation  
              condition;
- said at least one member is in forcible contact  
              with said at least one lens assembly; and
- said at least one lens assembly is not  
              translatable with respect to said housing.